

### Amendments To and Listing of the Claims

Please amend claim 10, so that the claims read as follows:

1-9. (Cancelled)

10. (Currently Amended) A method for manufacturing a temperature probe comprising a cable having at least one pair of conducting wires, each conducting wire of the pair being insulated by a sheath of insulating material and having at one end of the cable an exposed length of wire with a sensor soldered to the at least one pair of conducting wires at the exposed length of wire, the method comprising the steps of:

introducing the sensor and the exposed lengths of wire into a covering element comprising a first thermoplastic material which is the same as or compatible with the insulating material, and thereafter

covering the sensor and the exposed lengths of wire by overmolding the sensor and the exposed lengths with a second thermoplastic material which is the same as or compatible with the insulating material.

11. (Withdrawn) The method according to claim 10, wherein the cable further has an outer sheath enclosing the sheaths of insulating materials, and wherein the introducing step comprises sliding the outer sheath along the sheaths of insulating material until an end portion of the outer sheath encloses the sensor, such that the end portion of the outer sheath acts as the covering element.

12. (Withdrawn) The method according to claim 11, wherein the outer sheath comprises a thermoplastic material.

13. (Withdrawn) The method according to claim 10, wherein the overmolding of the covering step comprises injection molding the second thermoplastic material.

14. (Withdrawn) The method according to claim 10, wherein the covering step comprises fusing the covering element and the second thermoplastic material such that the covering element forms a single body with the second thermoplastic material.

15. (Previously Presented) The method according to claim 10, wherein the covering element comprises a covering tube, and wherein the overmolding comprises injection molding of the second thermoplastic material and the covering step further comprises placing

and blocking of the covering tube in a mold to prevent the covering tube from moving during injection of the second thermoplastic material.

16. (Previously Presented) The method according to claim 15, wherein the introducing step further comprises slipping the covering tube over an insulated portion of the cable.

17. (Withdrawn) The method according to claim 15, wherein the covering tube comprises at least two layers including at least an outer material and an inner material coupled together to form a single element.